

ABSTRACT

Optical systems that provide for simultaneous images and spectra from an object, such as a tissue sample, an industrial object such as a computer chip, or any other object that can be viewed with an optical system such as a microscope, endoscope, telescope or camera. In some embodiments, the systems provide multiple images corresponding to various desired wavelength ranges within an original image of the object, as well as, if desired, directional pointer(s) that can provide both an identification of the precise location from which a spectrum is being obtained, as well as enhancing the ability to point the device.

Parameter	Value	Unit
Initial concentration of H_2O_2	0.01	M
Initial concentration of Fe^{2+}	0.001	M
Initial concentration of H^+	0.1	M
Temperature	25	$^{\circ}\text{C}$
Time	0 to 100	min
Concentration of H_2O_2 at time t	0.01	M
Concentration of Fe^{2+} at time t	0.001	M
Concentration of H^+ at time t	0.1	M
Rate of reaction	0.001	M/min
Order of reaction	1	
Half-life	100	min
Activation energy	50	kJ/mol
Pre-exponential factor	10	M/min
Frequency factor	10	M/min
Arrhenius equation	$k = A e^{-E_a/RT}$	
Rate constant	0.001	M/min
Reaction order	1	
Half-life	100	min
Activation energy	50	kJ/mol
Pre-exponential factor	10	M/min
Frequency factor	10	M/min
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Activation energy		